

# GEC 2023

## 21st-Century Skills FACILITATORS GUIDE



**basic education**

Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA



LEARN TO SUCCEED

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<b>Activity</b>	<b>Suggested time required</b>
Icebreaker/Setting the scene	15 mins
Introduction	15 mins
Activity 1: Defining the 21 <sup>st</sup> -Century Skills	40 mins
Activity 2: Identifying the 21 <sup>st</sup> -Century Skills	100 mins
Activity 3: Reflecting on the experience of using the tools.	30 mins
Activity 4 Embedding 21 <sup>st</sup> -Century Skills	20 mins

### Context of this training

The goal of the GEC is to:

- support the development of learners’ “21st-Century Skills” and inclinations and,
- strengthen the effective assessment of these skills and learners’ knowledge and,
- provide learners with an opportunity to develop and grow these skills, in such a way that prepares learners to make decisions about their future studies and career pathways that then prepares them for success in a changing world.

In this **training**, we will explore how we prepare learners with skills for a changing world by addressing the following topics:

1. **Defining** what 21st-Century Skills are.
2. **Identifying** these 21st-Century Skills
3. **Embedding** these 21st-Century Skills in teaching and learning – what the science of learning tells us.

### The ‘Curious Questions’ driving this workshop are:



- **What** are 21st-Century Skills and why do we need them?
- How do we **identify** these 21st-Century Skills?
- How can we **embed** these 21st-Century Skills into our teaching and learning? What are the conditions needed to successfully grow learners’ 21st-Century Skills?

**The learning goal of this workshop is:** to equip participants with the understanding and practical skills necessary to effectively begin to take their first steps into identifying 21st-Century Skills in their classes. To also understand some of the mechanisms needed to effectively integrate 21st-Century Skills into teaching and learning experiences, preparing learners for a rapidly changing world. SO THAT participants can effectively train and support teachers to be able to effectively measure 21st-Century Skills in their classrooms.

### The objectives of this workshop are:

1. **Define** key 21st-Century Skills.
2. **Identify** specific 21st-Century Skills in a variety of contexts.
3. **Explore** and **understand** the scientific basis for embedding 21st-Century Skills in teaching and learning processes.

### The outcome of this workshop is:

By the end of this workshop participants will be able to:

- Clearly articulate the definition of specific 21st-Century Skills.
- Understand principles from the science of learning to integrate 21st-Century Skills into their teaching methodologies.
- Accurately identify the presence of 21st-Century Skills within various learning environments or situations.
- Understand the integrated projects and how 21<sup>st</sup>-Century Skills they are assessed.

The purpose of this document is to equip you with the necessary information to efficiently conduct this workshop session. For a more detailed understanding of the workshop’s themes, we suggest reading the following documents below:

1. The Teachers Guide to 21st-Century Skills - A short guide that offers thorough explanations of the five 21st-Century Skills included in the GEC.
2. The teacher’s guide to Project-based Learning - A guide that unpacks the elements needed for the successful implementation of an integrated project.

**PLEASE NOTE: PLEASE FEEL FREE TO ADAPT THIS TRAINING TO THE SPECIFIC NEEDS OF YOUR TRAINING COHORT. THE ACTIVITIES AND NOTES IN THIS DOCUMENT ARE A SUGGESTION.**

**There are 6 activities in this workshop. All activities in this workshop will be carried out in the same groups of approx. 6 – 8 people throughout the workshop.**

## Icebreaker: Alternative uses creativity game

**Time:** 15 minutes

**Resources:** A series of small pictures of different objects.

### Why are we doing this activity?

The 'Creative Alternatives' game is designed to stimulate participants' creativity and stretch their ability to think outside the box. It encourages flexible thinking and problem-solving, key aspects of 21st-Century Skills. This exercise helps us practice divergent thinking, a type of thinking that generates many new ideas and fosters innovation and adaptability. It's not just about quantity but also the uniqueness of ideas. So, it's a perfect warm-up for our session about incorporating 21st-Century Skills in teaching and learning.

### Instructions:

1. Invite each participant to pick one image from the assortment of pictures laid out on the table.
2. Instruct participants to individually think quietly for one minute, brainstorming as many unconventional uses for their object as they can.

*For example, if you picked a picture of a fork, you could think of it as:*

- *A comb for your hair*
  - *A painting tool that creates three lines at once*
  - *A gardening helper for sowing small, evenly spaced seeds.*
  - *Unique, dangling earrings*
  - *A personal back scratcher*
3. After the minute is up, everyone will share their creative ideas with the group. Consider the following:
    - The total number of different uses you conceived.
    - The level of uniqueness in your ideas.
  4. Conclude this activity by explaining:

### Ideas for what you could say:

*The 'Creative Alternatives' game is designed to stimulate your creativity and stretch your ability to think outside the box. It encourages flexible thinking and problem-solving, key aspects of 21st-Century Skills. This exercise helps us practice divergent thinking, a type of thinking that generates many new ideas and fosters innovation and adaptability. It's not just about quantity but also the uniqueness of ideas. So, it's a perfect warm-up for our session about incorporating 21st-Century Skills in teaching and learning!*

## Introduction

**Time:** 15 minutes

**Resources:** PowerPoint presentation

### Why are we doing this activity?

The purpose of the introduction is to set the scene and outline the whole workshop so that participants have an overview of the content for the training as well as know what is expected and how to participate.

### Instructions:

1. Use the slide deck provided to give a short presentation that provides an overview of the training and what to expect during the session.

Highlight and remind everyone of the important resources that support this training

1. A teacher's <b>guide</b> to 21st-Century Skills.	This guide comprehensively defines the 5 21st-Century Skills, helping teachers to recognize these skills in their classrooms.
2. 21st-Century Skills <b>toolbox</b>	The Toolkit comes with 15 handy tools for teaching your learners about these skills, plus classroom posters to reinforce the concepts.
3. Teaching-for-Learning in a fast-changing world <b>textbook</b>	This textbook is designed to guide both pre-service and in-service teachers in honing their skills for teaching in a fast-changing world. Drawing on insights from the latest science of learning research, it makes practical recommendations on how to prepare learners for a changing world. The textbook can be downloaded here: <a href="https://www.uj.ac.za/wp-content/uploads/2023/01/teaching-for-learning-in-a-fast-changing-world-e-version.pdf">https://www.uj.ac.za/wp-content/uploads/2023/01/teaching-for-learning-in-a-fast-changing-world-e-version.pdf</a>

## Activity 1: Defining - *what are 21st-Century Skills?*

**Time:** 40 minutes

**Resources:**

- Copies of the 21<sup>st</sup>-century skill descriptions.

**Why are we doing this activity?**

This activity is designed to establish a shared vocabulary among participants when discussing 21st-Century Skills. By fostering this common language, we facilitate clearer communication and recognition of these skills within the classroom context. It provides the foundation for teachers and learners' alike to spot and foster these essential skills effectively. Remember, understanding and defining these skills are the initial steps toward successful identification and deeper levels of assessment.

**Instructions:**

**Introduction to the concept (10 minutes)**

- 1.1. Recap what are 21<sup>st</sup>-Century Skills and why do we need them?
- 1.2. Ask the audience – why do we need to define 21<sup>st</sup>-Century Skills?

**You could say.**

*Sometimes these skills can be confusing because they can seem intangible, so we are making the intangible tangible by:*

- *Creating a common language to make discussing them easier*
- *Facilitating the process of being able to identify them more easily*
- *Creating an easy-to-use framework/rubric*

**PART ONE: Reflection (5-10 minutes)**

1. **Handout** the *21st-Century Skills Rubric: Self-reflection Activity*
2. **Explain** the task to the participants at your table.
  - A. **Read each statement carefully:** Take your time to understand what each statement is asking about.
  - B. **Reflect:** Reflect on how often you do what's described in the statement.
  - C. **Choose your answer:** For each statement, pick the option that best fits you:
    - "Never" if you don't do it at all.
    - "Rarely" if you've done it a few times, but not much.
    - "Sometimes" if you do it about half the time.
    - "Often" if you do it most of the time.
    - "Always" if you do it every time, without fail.

Be honest: There are no right or wrong answers. It is simply about engaging deeply with the content.

**PART TWO: Discussion (10 minutes)**

3. **Explain** part 2 of this activity to the participants at your table.

In pairs discuss the following:

- A. Did anything surprise you about your answers?
- B. Which skills are you strongest at, can you give some practical examples to support your answers?
- C. Which skills are you not as strong at, what do you think you could do to grow these skills?

**To summarise and close this activity you could say.**

*21st-Century Skills are the skills that we need to succeed in a rapidly changing world.*

*There are a number of different skills that make up 21st-century skills but for the purpose of the GEC a selection of these skills have been included: communication, collaboration, critical thinking, creativity, and metacognition. These skills help individuals to face complex life and work environments in the 21<sup>st</sup> century. They are essential to succeed in the information age where change is rapid and constant, requiring individuals to be adaptable, flexible, self-directed, and proficient in communication and technology.*

## Activity 2: Identifying – how do we identify these skills?

**Time:** 10 minutes

**Resources:**

- Tree Map matching game

### Why are we doing this activity?

Through this activity, participants will gain hands-on experience using a straightforward rubric to observe 21st-Century Skills in action. The goal is to foster familiarity and ease with this rubric, which will lead to participants feeling able to incorporate this tool into their teaching practices with greater confidence and effectiveness.

### Instructions:

#### Introduction (10 minutes)

- 3.1. Introduce the curious question: How do we identify these 21st-Century Skills?

#### **You could say:**

*In this activity, we will be exploring the curious question of how we identify these 21st-Century Skills. We will answer this question by practicing using a 21st-Century Skills observation rubric using a simulation activity.*

- 3.2. Recap the observation rubric.

"The 'Observation Rubric' is a user-friendly tool that clearly outlines five key 21st-Century Skills. It also offers specific descriptors that observers can look for during class activities. The primary aim of this rubric is to assist educators in easily spotting these skills so that they can be nurtured and grown during class over the course of the year.

- 3.3. Allow participants around 5 minutes to look at the rubric, they should not need too much time because in the previous activity, participants would have reviewed the rubric. However, seeing it in this format will be new to them.
- 3.4. Allow any time for questions.

#### Introducing the Building Project (10 minutes)

- 3.5. Explain to the participants that in this activity, each group will be assigned to either task 1 (building) or task 2 (observing). Groups will swap and do both tasks.
- 3.6. Explain task 1: the building project "How can we build a bridge that can support a board marker using only the resources available to us?"

In their teams, participants are tasked to create a bridge that is a minimum of 30 cm long and at least 10 cm high, using only the materials assigned to them. The bridge should be robust enough to support three board markers.

## Observing and Building, using template one (60 minutes)

- 3.7. Group 1 starts the building project while Group 2 observes. The observing team should actively look for the 21st-Century Skills mentioned in the rubric in the working team.
- 3.8. After 20 minutes the groups swap tasks. Group 1 will observe, and Group 2 will build.
- 3.9. Allow 20 minutes for a debrief and facilitate any questions. Allow for participants to share their experiences.

## Scoring, using Template two (20 minutes)

- 3.10. Hand out **template two**. Template two is for scoring the observations.

### Explain

1. Use your observations from the 21st Century Skill Observation Tool (**Template 1**) to help you to decide what score you will give each participant for each sub-skill. **For example, the more frequently you observe a skill the higher the mark you will select e.g., Often observed, or always observed.**

In the example below you might score the sub-skills in communication either a 1 or 2, but for collaboration you might score the sub-skills 3 or 4.

Template 1: 21st Century Skills Observation Tool															
Subject:	Building Project														
Class:	1.1 Asking questions:	1.2 Evaluating ideas:	1.3 Identifying patterns:	2.1 Non-verbal communication:	2.2 Articulation:	2.3 Empathising:	3.1 Number of ideas:	3.2 Range of ideas:	3.3 Feasibility of ideas:	4.1 Negotiating roles and responsibilities:	4.2 Pooling resources:	4.3 Engaging with roles and responsibilities:	5.1 Setting goals and planning:	5.4 Monitoring progress against plans:	5.3 Reflecting on planned work:
Learners	Critical Thinking			Communication			Creativity			Collaboration			Metacognition		
Zama															

2. Score each sub-skill based on how often it was observed.
3. Record these scores on the Subject Teacher Capturing Template (**Template 2**). Each skill's score is the total of its 3 sub-skills.

Remember, these scores are not for marks, promotion, or progression. They simply state the frequency in which these skills have been practiced and observed.

### The scoring rubric.

Frequency	Never observed	Rarely Observed	Sometimes Observed	Often Observed	Always Observed
Description	The behaviour wasn't seen.	The behaviour occurs, but not often.	The behaviour occurs about half the time.	The behaviour happens most of the time.	The behaviour is consistent and regular.
Score	0	1	2	3	4

NOTE: Remind participants that the journey towards meaningfully providing learners with information about their 21<sup>st</sup>-Century Skills starts with identification.



Both teachers AND learners need to be able to **identify** and **talk** about these **21<sup>st</sup>-Century Skills**, **BEFORE starting** to assign a competency level.

- 3.11. Allow participants time to discuss their scores. Remind people that there is NO judgment of a person's behaviour. It is simply an exercise to see **how often** you see certain skills. At this point, you might want to mention that the activity was very short, and it is unlikely that participants had the opportunity to practice and demonstrate all the skills and sub-skills.
- 3.12. Use the PowerPoint to explain **template 3**.

**Instructions**

1. **Subject teachers give** their filled 'Subject Teacher Capturing Tool' (Template 2) to the **class teacher**.
2. The class teacher **combines** all scores from different subjects into 'Class Teacher Consolidation Template' (Template 3).
3. If done on Excel, this template will **automatically convert** the scores to a scale of 10, which can then be entered into SA-SAMS.
4. Finally, Template 3 is given to the person in charge of entering scores into SA-SAMS

**Template 3: Class teacher Consolidation Capturing Tool 21st century skills**  
Class:

Name	HL			FAL			SS			CA			EMS					LO				NS			TECH			MATHS			SA-SAMS					
	CT	COM	CR	COM	CR	COL	CT	COM	COG	CT	CR	COG	CT	COM	CR	COL	COG	CT	COM	CR	COL	COG	CT	CR	COL	CT	COL	COG	COM	CR	COG	COL	COM	CRE	CT	COG
	10	9	11	8	9	7	7	6	5	5	4	5	6	7	8	8	9	9	10	10	12	12	10	10	12	11	11	11	12	11	11	10	10	10	10	10

- 3.13. Allow 10-20 minutes for a debrief and facilitate any questions. Allow for participants to share their experiences.

## Activity 3: Reflecting and discussing– what did we experience, how did we feel?

**Time:** 30 minutes

**Resources:**

- No materials are needed.

### Why are we doing this activity?

In this activity, we reflect on the experiences that we had in activity 3. Through the action of reflection, participants can consolidate their understanding of the topic, by thinking about how this new experience/knowledge connects with what they already know, leading to deeper learning.

### Instructions

- 4.1. Guide a group discussion around.
  - Did you observe all the skills in 20 minutes?
  - What did you find challenging?
  - What did you like about this?
  - What questions do you have?
- 4.2. Conclude this part of the workshop by sharing something like the following:

Finally, you could sum up with the following, or draw your own answers from the answers shared by the participants.

*We started the session by practicing our creative thinking skills and switching on our brains for action. We then began by exploring a common language to use to describe 21st-Century Skills by creating our very own visual displays. This too in its own right was an activity that used a number of these 21st-Century Skills.*

*We then went on to practice identifying 21st-Century Skills. The building project was an attempt at creating an opportunity for you to practice 21st-Century Skills. We know that measuring these skills needs to be done over time, so this activity was just a taster. We also realised that in one very short activity, you won't see all the skills and that these skills need time to grow. As teachers, we need to apply these principles of learning to the whole year.*

*We discovered that in order for our learners to grow their 21st-Century Skills they need opportunities to practice their 21st-Century Skills. Next, we will explore some of the principles from the science of learning that inform the development of these 21st-Century Skills and why and how the integrated project is such a great tool to help learners practice and grow their 21st-Century Skills.*

## Activity 4: Embedding – How do we embed these skills?

**Time:** 20 minutes

**Resources:**

- PowerPoint presentation

### Why are we doing this activity?

In this activity, participants will listen to a short presentation outlining what the science of learning tells us about how learning happens to grow and develop a whole child, a child with academic and 21st-Century Skills (as well as socio-emotional learning).

To grow 21st-Century Skills in learners' it is crucial to ensure that our lessons provide opportunities for learners to practice and develop these 21st-Century Skills. We know that learners are not empty vessels waiting to be filled with knowledge and so this activity offers a brief introduction to understanding and implementing principles

derived from the science of learning in our everyday teaching practices, which lead to opportunities for learners to practice and grow their 21st-Century Skills.

## **Instructions**

- 2.1 Start by introducing the curious question: **How can we embed these 21st-Century Skills into our teaching and learning?**

*You could say:*

*In this activity we will be exploring the curious question, how can we embed these 21st-Century Skills in our teaching and learning? We will draw on what the science of learning tells us about how learning happens to grow and develop a whole child, a child with academic and 21st-Century Skills (as well as socio-emotional learning).*

*Before we can identify 21st-Century Skills in our learners, it's crucial to ensure that our lessons provide opportunities for learners to practice and develop these 21st-Century Skills. We know that learners are not empty vessels waiting to be filled with knowledge and so this activity offers a brief introduction to understanding and implementing principles derived from the science of learning in our everyday teaching practices, which lead to opportunities for learners to practice and grow their 21st-Century Skills.*

- 2.2 Use the slide deck provided to give a short presentation that answers the curious question: how do we embed 21st-Century Skills in our teaching and learning?

## **Conclusion of this activity (10 minutes)**

- 5.6 Conclude the activity by saying.

*You could say.*

*In this activity, we explored the curious question of how we can nurture 21st-Century Skills using an integrated project and why such a project is beneficial for learners. We found that the integrated project gives learners the chance to be self-directed, allowing them to collaborate and solve real-life and relevant problems.*

*When learners are self-directed, they employ metacognitive, communication, collaboration, and critical thinking skills. They make their own decisions and deeply engage with the content because they have autonomy. The integrated project allows learners opportunities to collaborate with others, learners enhance their communication skills to work effectively in a team. Lastly, in solving real-life, relevant problems, learners exercise their critical thinking and creativity skills, finding practical and pertinent solutions to real-world challenges.*

*We also employed our own 21<sup>st</sup>-century skills as we engaged in collaborative problem-solving through the world cafe activity. We know that preparing learners with skills for a changing world is HARD, it is CHALLENGING, it is UNCERTAIN, and it is AMBIGUOUS. As educational leaders, we adopted our preparedness mindset, turned our radars on, and started solving problems!*